

## Lesson 0.2 • Symbolic Representation

Name \_\_\_\_\_ Period \_\_\_\_\_ Date \_\_\_\_\_

1. Explain what you would do to change the first equation to the second.

a.  $x + 7 = 22$   
 $x = 15$

b.  $8y = 72$   
 $y = 9$

c.  $-14 + z = 21$   
 $z = 35$

d.  $\frac{w}{-11} = 2.5$   
 $w = -27.5$

e.  $280 = r + 116$   
 $164 = r$

f.  $323 = -19s$   
 $-17 = s$

2. Solve.

a.  $12 + a = 39$

b.  $42 - b = 33$

c.  $25c = 375$

d.  $5 + 3d = -7$

e.  $x + 4x = 35$

f.  $2y + 3y = -130$

g.  $6z + z + 8 = -20$

h.  $12 + 9w = w - 15$

i.  $-14 + 3p = -9p - 21$

j.  $15 - 6q = 2q + 9$

3. Rewrite each expression without parentheses.

a.  $5(x - 9)$

b.  $-3(7 - y)$

c.  $2z(z - 8)$

d.  $-12q(12 - q)$

e.  $-7y(y^2 - 3y)$

f.  $10x(x^2 - 10)$

g.  $(2r - 5)(3r)$

h.  $(-8s + 5)(-6s)$

i.  $-y^2(3y - 5)$

j.  $8z(2z^2 - 15)$

4. Substitute the given value of the variable(s) in each expression and evaluate.

a.  $4x - 12$  when  $x = 3$

b.  $5(y + 7)$  when  $y = -12$

c.  $-2a + 5b$  when  $a = -3$  and  $b = 6$

d.  $\frac{1}{2}m - \frac{3}{4}n$  when  $m = -8$  and  $n = -12$

e.  $0.2a - 0.4b + 0.6c$  when  $a = 20$ ,  $b = -32$ , and  $c = 16$

f.  $\frac{5}{6}x + \frac{2}{3}y - \frac{7}{12}z$  when  $x = -12$ ,  $y = 9$ , and  $z = 24$

g.  $2.3r - 4.5s - 5.8t$  when  $r = 4$ ,  $s = -2$ , and  $t = -5$

h.  $\frac{3}{8}f - \frac{5}{11}h + \frac{9}{7}j$  when  $f = -8$ ,  $h = -22$ , and  $j = 21$